

§Appl. No. 10/078,531
Amdt. dated April 14, 2006
Reply to Office Action of, October 14, 2005

Listing of Claims:

Please amend the claims as follows:

Claim 1 (Cancelled)

Claim 2 (Cancelled)

Claim 3 (Cancelled)

Claim 4 (Cancelled)

Claim 5 (Cancelled)

Claim 6 (Cancelled)

Claim 7 (Cancelled)

Claim 8 (Cancelled)

Claim 9 (Cancelled)

Claim 10 (Cancelled)

Claim 11 (Cancelled)

Claim 12 (Cancelled)

Claim 13 (Cancelled)

Claim 14 (Cancelled)

Claim 15 (Cancelled)

Claim 16 (Cancelled)

§Appl. No. 10/078,531
Amdt. dated April 14, 2006
Reply to Office Action of, October 14, 2005

Claim 17 (Currently Amended) An isolated polypeptide comprising a polypeptide which is:

- (a) a polypeptide having at least 70% amino acid sequence identity to a ~~second polypeptide having an the amino acid sequence comprising: set forth in SEQ ID NO: 2, or fragments comprising at least ten contiguous amino acids thereof;~~
 - (b) a polypeptide having at least 95% amino acid sequence identity to a ~~second polypeptide having an the amino acid sequence comprising: set forth in SEQ ID NO: 2, or fragments comprising at least ten contiguous amino acids thereof;~~
 - (c) ~~a polypeptide comprising a sequence chosen from SEQ ID NO: 2, or fragments comprising at least ten contiguous amino acids thereof;~~
 - (d) a polypeptide capable of generating antibodies having binding specificity for a polypeptide having a sequence chosen from SEQ ID NO: 2 ~~which comprises, or fragments comprising~~ at least ten contiguous amino acids thereof;
 - (e) an epitope bearing portion of a polypeptide having a sequence chosen from SEQ ID NO: 2 ~~which comprises, or fragments comprising~~ at least ten contiguous amino acids thereof,
 - (f) ~~the polypeptide of (a), (b), (c), (d), or (e) wherein the N-terminal Met residue is deleted; or~~
 - (g) ~~the polypeptide of (a), (b), (c), (d), (e), or (f) wherein the secretory amino acid sequence is deleted;~~
- wherein said polypeptide elicits antibodies specific for BVH-P7 of *S. pyogenes*.

Claim 18 (Cancelled)

Claim 19 (Currently Amended) A chimeric polypeptide comprising two or more polypeptides, each having a sequence chosen from SEQ ID NO: 2, and each of at least ten contiguous amino acids thereof; provided that the polypeptides are linked to form a chimeric polypeptide, wherein said chimeric polypeptide elicits antibodies specific for BVH-P7 of *S. pyogenes*.

§Appl. No. 10/078,531
Amdt. dated April 14, 2006
Reply to Office Action of, October 14, 2005

Claim 20 (Previously Presented) A chimeric polypeptide comprising two or more polypeptides, wherein at least one polypeptide comprises an amino acid sequence of at least ten contiguous amino acids chosen from SEQ ID NO: 2; provided that the polypeptides are linked to form a chimeric polypeptide, wherein said chimeric polypeptide elicits antibodies specific for BVH-P7 of *S. pyogenes*.

Claim 21 (Previously Presented) A pharmaceutical composition comprising a polypeptide according to claim 17 and a pharmaceutically acceptable carrier, diluent or adjuvant.

Claim 22 (Withdrawn) A method for prophylactic or therapeutic treatment of pharyngitis, erysipelas and impetigo, scarlet fever, and invasive diseases such as bacteremia and necrotizing fasciitis in a host susceptible to pharyngitis, erysipelas and impetigo, scarlet fever, and invasive diseases such as bacteremia and necrotizing fasciitis and also toxic shock comprising administering to said host a prophylactic or therapeutic amount of a composition according to claim 21.

Claim 23 (Withdrawn) A method for prophylactic or therapeutic treatment of *Streptococcus pyogenes* bacterial infection in a host susceptible to *Streptococcus pyogenes* infection comprising administering to said host a prophylactic or therapeutic amount of a composition according to claim 21.

Claim 24 (Withdrawn) A method according to claim 22 wherein the host is an animal.

Claim 25 (Withdrawn) A method according to claim 22 wherein the host is a human.

Claim 26 (Withdrawn) A method for diagnostic of streptococcal infection in a host susceptible to streptococcal infection comprising

§Appl. No. 10/078,531
Amtd. dated April 14, 2006
Reply to Office Action of, October 14, 2005

- (a) obtaining a biological sample from a host;
- (b) incubating an antibody or fragment thereof reactive with a streptococcal polypeptide of claim 17 with the biological sample to form a mixture; and
- (c) detecting specifically bound antibody or bound fragment in the mixture which indicates the presence of streptococcal.

Claim 27 (Withdrawn) A method for detection of antibody specific to streptococcus antigen in a biological sample comprising

- (a) obtaining a biological sample from a host;
- (b) incubating one or more streptococcal polypeptides of claim 17 or fragments thereof with the biological sample to form a mixture; and
- (c) detecting specifically bound antigen or bound fragment in the mixture which indicates the presence of antibody specific to streptococcus.

Claim 28 (Withdrawn) A method of preparing a pharmaceutical composition for the prophylactic or therapeutic treatment of streptococcal infection comprising combining a polypeptide according to claim 17 with a pharmaceutically acceptable carrier, diluent or adjuvant.

Claim 29 (Withdrawn) A kit for detection or diagnosis of streptococcal infection comprising a polypeptide according to claim 17, and instructions for use of the polypeptide in the detection or diagnosis of streptococcal infection.

Claim 30 (Currently Amended) A pharmaceutical composition comprising a chimeric polypeptide according to ~~claim 18~~ claim 19 and a pharmaceutically acceptable carrier, diluent or adjuvant.

§Appl. No. 10/078,531
Amdt. dated April 14, 2006
Reply to Office Action of, October 14, 2005

Claim 31 (Withdrawn) A method for diagnostic of streptococcal infection in a host susceptible to streptococcal infection comprising

- (d) obtaining a biological sample from a host;
- (e) incubating an antibody or fragment thereof reactive with a streptococcal polypeptide of claim 18 with the biological sample to form a mixture; and
- (f) detecting specifically bound antibody or bound fragment in the mixture which indicates the presence of streptococcal.

Claim 32 (Withdrawn) A method for detection of antibody specific to streptococcus antigen in a biological sample comprising

- (a) obtaining a biological sample from a host;
- (b) incubating one or more streptococcal polypeptides of claim 18 or fragments thereof with the biological sample to form a mixture; and
- (c) detecting specifically bound antigen or bound fragment in the mixture which indicates the presence of antibody specific to streptococcus.

Claim 33 (Withdrawn) A method of preparing a pharmaceutical composition for the prophylactic or therapeutic treatment of streptococcal infection comprising combining a polypeptide according to claim 18 with a pharmaceutically acceptable carrier, diluent or adjuvant.

Claim 34 (Withdrawn) A kit for detection or diagnosis of streptococcal infection comprising a polypeptide according to claim 18, and instructions for use of the polypeptide in the detection or diagnosis of streptococcal infection.

§Appl. No. 10/078,531
Amdt. dated April 14, 2006
Reply to Office Action of, October 14, 2005

Claim 35 (Currently Amended) An isolated polypeptide of claim 17, which comprises at least one epitope of at least ten contiguous amino acids that elicits antibodies specific for *S. pyogenes*.

Claim 36 (Cancelled)

Claim 37 (Currently Amended) An isolated polypeptide of claim 17, having at least 95% amino acid identity to ~~a second polypeptide having an~~ the amino acid sequence set forth in comprising: SEQ ID NO: 2, or fragments thereof comprising at least ten contiguous amino acids.

Claim 38 (Previously Presented) An isolated polypeptide of claim 17 which is SEQ ID NO:2, or fragments thereof comprising at least ten contiguous amino acids.

Claim 39 (Cancelled)

Claim 40 (Currently Amended) An isolated polypeptide of claim 17 +9, which is SEQ ID NO:2.

Claim 41 (Previously Presented) An isolated BVH-P7 polypeptide from a *S. pyogenes* strain comprising at least 90% amino acid sequence identity to SEQ ID NO:2, or fragments thereof comprising at least ten contiguous amino acids thereof, and wherein said polypeptide comprises at least one epitope that elicits antibodies specific for *S. pyogenes*.

Claim 42 (Currently Amended) An isolated polypeptide of claim 17, wherein said polypeptide is encoded by a polynucleotide which hybridizes to the complement of SEQ ID NO:1 under stringent conditions.

§Appl. No. 10/078,531
Amdt. dated April 14, 2006
Reply to Office Action of, October 14, 2005

Claim 43 (Currently Amended) An isolated polypeptide of claim + 17, comprising a polypeptide which is:

- (a) a polypeptide comprising at least 70% amino acid sequence identity along its entire length to the complete polypeptide of the amino acid sequence set forth in SEQ ID NO:2;
 - (b) ~~the polypeptide of (a), wherein the N-terminal Met residue is deleted; or~~
 - (c) ~~the polypeptide of (a) or (b), wherein the secretory amino acid sequence is deleted,~~ wherein said polypeptide is capable of eliciting an immune response specific to BVH-P7 of *S. pyogenes*.

Claim 44 (Currently Amended) An isolated polypeptide of claim 1, comprising a polypeptide which is:

- (a) a polypeptide comprising at least 90% amino acid sequence identity along its entire length to the complete polypeptide of the amino acid sequence set forth in SEQ ID NO:2; wherein said polypeptide is capable of eliciting an immune response specific to BVH-P7 of *S. pyogenes*
 - (b) ~~the polypeptide of (a), wherein the N-terminal Met residue is deleted; or~~
 - (c) ~~the polypeptide of (a) or (b), wherein the secretory amino acid sequence is deleted.~~

Claim 45 (Currently Amended) An isolated polypeptide of claim 1, comprising a polypeptide which is:

- (a) a polypeptide comprising at least 95% amino acid sequence identity along its entire length to the complete polypeptide of the amino acid sequence set forth in SEQ ID NO:2;
 - (b) ~~the polypeptide of (a), wherein the N-terminal Met residue is deleted; or~~
 - (c) ~~the polypeptide of (a) or (b), wherein the secretory amino acid sequence is deleted,~~

§Appl. No. 10/078,531
Amdt. dated April 14, 2006
Reply to Office Action of, October 14, 2005

wherein said polypeptide is capable of eliciting an immune response specific to BVH-P7 of *S. pyogenes*.

Claim 46 (New) An isolated polypeptide of Claim 17, wherein said polypeptide lacks an N-terminal Met residue.

Claim 47 (New) An isolated polypeptide of Claim 17, wherein said polypeptide lacks a secretory amino acid sequence.

Claim 48 (New) An isolated chimeric polypeptide of Claim 19, wherein said polypeptide lacks an N-terminal Met residue or which lacks a secretory amino acid sequence.

Claim 48 (New) An isolated chimeric polypeptide of Claim 20, wherein said polypeptide lacks an N-terminal Met residue or which lacks a secretory amino acid sequence.

Claim 49 (New) A pharmaceutical composition comprising a polypeptide according to claim 38 and a pharmaceutically acceptable carrier, diluent or adjuvant.

Claim 50 (New) A pharmaceutical composition comprising a polypeptide according to claim 45 and a pharmaceutically acceptable carrier, diluent or adjuvant.

Claim 51 (New) An isolated polypeptide of Claim 17, comprising a polypeptide which is:
a polypeptide comprising at least 95% amino acid sequence identity along its entire length to the complete polypeptide of the amino acid sequence set forth in SEQ ID NO:2, or fragments thereof comprising at least ten amino acids, and which is encoded by a polynucleotide

§Appl. No. 10/078,531
Amdt. dated April 14, 2006
Reply to Office Action of, October 14, 2005

which hybridizes under stringent conditions to the complement of SEQ ID NO:1, wherein said polypeptide is capable of eliciting an immune response specific to BVH-P7 of *S. pyogenes*.

Claim 52 (New) An isolated polypeptide of Claim 17, comprising a polypeptide which is:
a polypeptide comprising at least 95% amino acid sequence identity along its entire length to the complete polypeptide of the amino acid sequence set forth in SEQ ID NO:2, and which is encoded by a polynucleotide which hybridizes under stringent conditions to the complement of SEQ ID NO:1, wherein said polypeptide is capable of eliciting an immune response specific to BVH-P7 of *S. pyogenes*.